

CLAIMS

1. A wireless access method in which there are installed a plurality of access point stations deploying a wireless service area and forming a communication link with a mobile radio terminal which has entered the service area, and a communication link is formed between the plurality of access point stations to perform communication, the method comprising:

performing point-to-multipoint type communication with the mobile radio terminal by providing an RF transceiver in each of the plurality of access point stations; and

performing point-to-point type communication with other access point stations by providing one or more another RF transceivers in each of the plurality of access point stations.

2. The wireless access method according to claim 1, wherein:

one of the plurality of access point stations is a control access point station performing signal modulation/demodulation or access control, and the other access point stations are a repeater access point station:

upon receipt of a signal from an access point station other than the own station, the repeater access point station branches the signal into two signals, broadcasting and delivering one branched signal to all mobile radio terminals belonging to the coverage area of the own station and at the same time, relaying/transmitting the other branched signal to another repeater access point station based on a non-reproduction scheme; and

upon receipt of a radio signal transmitted from a mobile radio terminal belonging to the coverage area of the own station, the repeater access point station

relays/transmits this signal to another access point station based on a non-reproduction scheme.

3. The wireless access method according to claim 2, wherein:

to a radio signal transmitted from the control access point station to another access point station, there is attached destination information for allowing a destination access point station to perform identification; and

each repeater access point station identifies destination information of a received signal, relaying/transmitting the signal to another access point station based on a non-reproduction scheme when the signal is not destined for the own station, broadcasting the signal to the coverage area of the own station to deliver the signal to all mobile radio terminals when the signal is destined for the own station.

4. The wireless access method according to claim 1, wherein signal processing at the access point station is performed in IF frequency band obtained by performing down-converting from RF frequency band.

5. The wireless access method according to claim 4, wherein the RF transceiver included in the access point station is based on a millimeter-wave self-heterodyne scheme.

6. A wireless access system in which there are installed a plurality of access point stations deploying a wireless service area and forming a communication link with a mobile radio terminal which has entered the service area, and a

communication link is formed between the plurality of access point stations, the system comprising:

in each of the plurality of access point stations, an RF transceiver to form point-to-multipoint type communication link with the mobile radio terminal; and one or more another RF transceivers to form a point-to-point type communication link with another access point station.

7. The wireless access system according to claim 6, wherein the plurality of access point stations are constructed in cascade arrangement or two-dimensionally across a wide area, whereby a wireless service zone is deployed on a planar surface.

8. The wireless access system according to claim 6, wherein:
one of the plurality of access point stations is a control access point station performing signal modulation/demodulation or access control, and the other access point stations are repeater access point stations;

upon receipt of a signal from an access point station other than the own station, the repeater access point station branches the signal into two signals, broadcasting and delivering one branched signal to all mobile radio terminals belonging to the coverage area of the own station and at the same time, relaying/transmitting the other branched signal to another repeater access point station based on a non-reproduction scheme; and

upon receipt of a radio signal transmitted from a mobile radio terminal belonging to the coverage area of the own station, the repeater access point station

relays/transmits this signal to another access point station based on a non-reproduction scheme.

9. The wireless access system according to claim 8, wherein:

to a radio signal transmitted from the control access point station to another access point station, there is attached destination information for allowing a destination access point station to perform identification; and

each repeater access point station identifies destination information of a received signal, relaying/transmitting the signal to another access point station based on a non-reproduction scheme when the signal is not destined for the own station, broadcasting the signal to the coverage area of the own station to deliver the signal to all mobile radio terminals when the signal is destined for the own station.

10. The wireless access system according to claim 6, wherein signal processing at the access point station is performed in IF frequency band obtained by performing down-converting from RF frequency band.

11. The wireless access system according to claim 10, wherein the RF transceiver included in the access point station is based on a millimeter-wave self-heterodyne scheme.